THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) An optical monitor, comprising:

a tunable filter for filtering a tapped portion of an optical signal at a predetermined tuning frequency to provide thereby a first filtered optical signal;

a directing means for directing the first filtered optical signal back through the tunable filter to provide thereby a second filtered optical signal; ~~and~~

a photodetector for measuring the power of the second filtered optical signal; and

a control unit for scanning the tuning frequency of the tunable filter across a frequency band of the optical signal and monitoring the optical power as a function of the tuning frequency.

2. (previously presented) The optical monitor of claim 1, further comprising an optical coupler for tapping a portion of the optical signal and for directing said second filtered optical signal to said photodetector.

3. (previously presented) The optical monitor of claim 2, wherein said optical coupler has associated with it a splitting ratio in range from about 1/99 to about 5/99.

4. (previously presented) The optical monitor of claim 2, wherein said optical coupler comprises a multi-section optical coupler.

5. (cancelled)

6. (original) The optical monitor of claim 1, wherein said directing means comprises a mirror.

7. (original) The optical monitor of claim 1, wherein said directing means comprises a Sagnac loop.

8. (previously presented) The optical monitor of claim 1, wherein said directing means is adapted for reducing polarization dependence of a reflected portion of the first filtered optical signal.

9. (original) The optical monitor of claim 8, wherein said directing means comprises a Faraday rotator mirror.

10. (original) The optical monitor of claim 8, wherein said directing means comprises a quarter-wave plate.

11. (Currently Amended) The optical monitor of claim 1, ~~further comprising a~~ wherein the control unit is adapted for tuning said tunable filter across [[a]] the frequency band of the optical signal ~~and monitoring said optical power as a function of a tuning frequency of said tunable filter~~.

12. (original) The optical monitor of claim 1, wherein said tunable filter comprises a plurality of coupled Mach-Zehnder Interferometer filters.

13. (original) The optical monitor of claim 12, wherein each of said Mach-Zehnder Interferometer filters comprises at least one phase shifter.

14. (previously presented) The optical monitor of claim 12, wherein said tunable filter comprises seven coupled Mach-Zehnder Interferometer filters.

15. (previously presented) The optical monitor of claim 1, wherein said tunable filter comprises an exponential distribution of a free-spectral range from 200 to 12800 GHz.

16. (Currently Amended) A method of monitoring an optical signal, comprising:

a) filtering a tapped portion of the optical signal at a predetermined tuning frequency using a frequency tunable filter to provide thereby a first filtered optical signal;

~~b) substantially polarization dependence of the first filtered optical signal;~~

~~c)~~ b) reflecting the first filtered optical signal back through the tunable filter to provide thereby a second filtered optical signal;

~~d)~~ c) determining the power of the second filtered optical signal as a function of the tuning frequency of the frequency tunable filter; and

~~e)~~ d) repeating steps a) through ~~d)~~ c) throughout a frequency band of the optical signal to determine an optical spectrum of the optical signal.

17. (Currently Amended) An optical monitor, comprising:

a first means for tapping a portion of an optical signal;

a frequency tunable means for filtering a tapped portion of an optical signal at a predetermined frequency to provide thereby a first filtered optical signal;

a second means for reflecting the first filtered optical signal back through the frequency tunable means and the first means to provide thereby a second filtered optical signal; ~~and~~

a third means for measuring the optical power of the second filtered optical signal; and

a fourth means for scanning the tuning frequency of said tunable means across a frequency band of the optical signal and for monitoring the optical power as a function of the tuning frequency.

18. (cancelled)

19. (previously presented) The optical monitor of claim 17, wherein the second means is adapted for reducing polarization dependence of a reflected portion of the first filtered optical signal.

20. (cancelled)

21. (cancelled)